

VALUE OF UTAH MINES FOR 1903

(Special to The Herald.)
Helena, Mont., June 25.—The annual report of B. H. Tatem, assayer in charge United States assay office at Helena, Mont., prepared for the secretary of the treasury, and which has just been issued, says: The value of the gold, silver, copper and lead won from the mines of the state of Utah, during the calendar year 1903, was the largest in the history of the state. The quantity of each metal produced and the value thereof as shown in the table below, the gold and silver being computed at the average price for each and the copper and lead at the year's average price:

Description—	Quantity.	Value.
Gold, fine ounces.....	237,844	\$ 4,906,092.38
Silver, fine ounces (coin rate).....	19,571,766.99	25,304,910.83
Copper, fine pounds, at \$1.25 per cwt.....	33,952,692	4,244,089.25
Lead, fine pounds, at \$4.25 per cwt.....	106,765,257	4,550,753.24
Total.....		\$39,301,455.94

Below is a similar comparison of the amounts and values of the production for the preceding year:

Description—	Quantity.	Value.
Gold, fine ounces.....	192,157	\$ 3,972,235.41
Silver, fine ounces (coin rate).....	16,391,895	21,317,767.50
Copper, fine lbs.....	28,954,626	3,619,528.25
Lead, fine lbs.....	110,609,441	4,650,698.10
Total.....		\$30,550,229.26

The showing for the year made by the mines of this state has been most satisfactory. In nearly every camp of the state new properties are being opened up, while the improvement in metal prices, the enlargement of smelter facilities and the reduction in railroad traffic rates have encouraged and added immensely to the welfare of the industry.

In point of value of metal production, silver is the largest, followed in the order named by lead, gold and copper. Probably the most striking advancement in metal production has been in copper, of which, not many years ago, but little was thought in the state. The average price paid for this metal, as also for lead, was a substantial increase over the prices paid for the same metals during the preceding year. The average price of copper for the calendar year 1903 was \$11.826 per cwt. and for 1902 \$11.235, an increase of \$1.61 per cwt. The average price paid for lead during the calendar year 1903 was \$4.069 and for 1902 \$4.227, an increase of \$0.158 per cwt.

The yield of gold in 1903 and 1902 is distributed to the different counties of the state, and the changes therein, are noted in the following table:

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	268,093
Iron.....	1,000,000	1,268,093	268,093
Utah.....	1,000,000	1,268,093	268,093
Summit.....	1,000,000	1,268,093	268,093
Tooele.....	1,000,000	1,268,093	268,093
Washington.....	1,000,000	1,268,093	268,093
Impossible to classify.....	1,000,000	1,268,093	268,093
Total.....	1,338,000	2,521,556	1,183,556

The changes in the quantity and value of the gold won from the different classes of ore in 1903 and 1902 are shown in the following table:

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	268,093
Iron.....	1,000,000	1,268,093	268,093
Utah.....	1,000,000	1,268,093	268,093
Summit.....	1,000,000	1,268,093	268,093
Tooele.....	1,000,000	1,268,093	268,093
Washington.....	1,000,000	1,268,093	268,093
Impossible to classify.....	1,000,000	1,268,093	268,093
Total.....	1,338,000	2,521,556	1,183,556

The larger gold output is traceable largely to the expansion of mining operations in the Bingham district, where a rapidly growing copper production includes a proportionate increase in the amounts of gold and silver extracted from the ore. In connection with copper, the Tintic and Park City districts, by the increased values of this metal contained in the ores, have contributed of these sections, have also contributed to the advance in production of this metal and the large, steady output recovered by the cyanide process still continues.

The amounts of silver originating in the several counties during the year 1902, when compared with the corresponding figures for 1903, show the following results:

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	268,093
Iron.....	1,000,000	1,268,093	268,093
Utah.....	1,000,000	1,268,093	268,093
Summit.....	1,000,000	1,268,093	268,093
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Washington.....	1,000,000	1,268,093	268,093
Impossible to classify.....	1,000,000	1,268,093	268,093
Total.....	1,338,000	2,521,556	1,183,556

The yield of silver in 1903, when compared with that of 1902, by its origin in the several classes of ore, shows the following results:

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	268,093
Iron.....	1,000,000	1,268,093	268,093
Utah.....	1,000,000	1,268,093	268,093
Summit.....	1,000,000	1,268,093	268,093
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Impossible to classify.....	1,000,000	1,268,093	268,093
Total.....	1,338,000	2,521,556	1,183,556

In the silver production of Utah the great mines of Park City continue to exhibit remarkable vitality and the increased output of the mines of this section of the state, together with the larger output from the Tintic and Bingham districts, are responsible for the increased showing made for the metal. Marked improvements in the facilities for the handling and shipping of ore from the mines to the smelters and in mine and smelter equipment have been made this past year.

While mining has been growing apace in the state the smelter industry has been growing with it. Probably no other state is so well favored and the splendid service of Utah's smelting plants has been a boon to the mine owner and a great factor in the development and progress of the mining industry. The valley of Salt Lake is destined to become a great smelting center of the west. Here within a very small radius are located the smelting plants of the American Smelting & Refining company, the United States Smelter, the Bingham Consolidated Smelter and the Utah Consolidated. During the year two new smelting plants have been completed, the Majestic at Milford and the Yampa at Bingham.

In the tables which follow are shown the output of precious metals for the principal producing counties of the state for the year:

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	268,093
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The year 1903 witnessed renewed mining activity in this county, the values of the metals produced being an increase of \$137,844.93 over the preceding year. Late in the year the new smelting plant of the Majestic company at Milford went into commission, an event over which the county generally exulted. The many mines and prospects being developed in this district should furnish this smelting plant with an ore supply amply sufficient to enable it to maintain a steady production. The character of many of the ores mined is of a low sulphide grade, easily concentrated, and the value increase with depth. For many years the Horn Silver Mining company has maintained a steady production from the rich silver ores contained in its properties.

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This county situated in the central western portion of the state, is reached by the lines of the San Pedro and Denver & Rio Grande railways and embraces the camps of Eureka, Mammoth, Robinson, Silver City and Knightsville. A large increase in the amount and value of the metal production is shown for the year. The Centennial-Eureka is the largest producer and the tonnage of ore from this property for the past year has exceeded all previous records. In October an underground fire of mysterious origin, which filled the workings of the Centennial-Eureka, Eureka Hill, Bullion-Beck and Gemini with gas and smoke, caused much annoyance and a cessation of work for several weeks. The fire was finally located in the district of the Eureka Hill property and extinguished. Among the great producers of this county, besides the Centennial-Eureka, may be mentioned, the Uncle Sam Consolidated, Mammoth, Lower Mammoth, Ajax, Grand Central, Carlos, Bullion-Beck, Eureka Hill, Yankee and Godiva. In this county are located the greatest number of producing properties contained in any one section of the state.

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During the year this county contributed to the value of the mineral production of the state some \$547,809.99 as shown by the above table, the principal producer being the Annie Laurie Mining company, situated on Gold Mountain. The values from the ores of this company are recovered by the cyanide process, about 10 per cent of the same being in the silver contained. The company employs steadily upwards of 100 men. Considerable prospecting has been done in the districts around Kimberly and Marysville and the coming year will undoubtedly give to the state some new producers from these sections.

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IN THE DISTRICT COURT, PROBATE DIVISION, in and for Salt Lake county, state of Utah, in the matter of the estate of Theodore Draback, deceased. Notice is hereby given that the undersigned, the executor of the last will and testament of Theodore Draback, deceased, praying for an order of sale of the property of said estate now due and payable, and that said person interested appear before said court to show cause why an order should not be granted as follows, to-wit:

(1) To give an option to Joseph Smith to purchase 100 shares of the stock of the Harsco Gold Mining company on or before June 1st, 1904, for \$25.00 per share, the balance of the assessment levied upon said stock now due and payable.

(2) To give an option to James H. Brown to purchase, on or before June 1st, 1904, for \$10.00 per share, the balance of the assessment levied upon said stock now due and payable.

(3) To give an option to the Harsco Gold Mining company to purchase 100 shares of the stock of the Harsco Gold Mining company on or before June 1st, 1904, for \$25.00 per share, the balance of the assessment levied upon said stock now due and payable.

mined of any county in the state during the past year, the principal points of production being in the districts surrounding Bingham and Bingham canyon. That these districts are destined to maintain a large production of copper, increasing as the properties are developed is the well advised opinion of all who have studied the region, and it is also conceded that economic conditions with which this county is favored, being in close proximity to the railroads and smelters, admit of an unusually low cost of production. The close of the year witnessed the completion of the new Yampa smelter, situated in the lower section of the Bingham canyon.

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The principal producer of this county during the year, the mining section which is centered at Park City, was the Silver King, followed by the Daly-Weston, Thabash and Deep Creek. This is primarily a silver district, lead camp and the output is shipped to the smelters of the Salt Lake valley. The district has prospered during the year partly owing to the increased prices paid for silver and lead and partly owing to the large amounts of outside money spent in prospecting, development and other improvements. Never in the history of the camp has so much legitimate prospecting been done, and never before has the search for ore bodies been so systematically and intelligently carried on. The results have been highly gratifying. This county shows an increase of value of metals mined of over \$1,500,000 for the year 1903, as compared with the preceding year, most of which was occasioned by the increased amounts and value of the silver-lead ores mined. The outlook for Park City for the coming year is particularly bright.

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The mining section of this county situated south and west of Salt Lake city a distance of some sixty miles, includes the districts of Mercur, Ephraim, Stockton, Thabash and Deep Creek. At the plant of the Consolidated Mercur, located at the camp of that name, a new process, known as the Moore process, was introduced the past year. This process was designed by the inventor to meet the slimes difficulty in cyaniding, by which probably 90 per cent of the ores are affected. The methods at present in vogue for the treatment of slimes are by decantation and by the filter press. At least these two methods are the only ones attempted in a large way. The Moore process filters in operation at the Consolidated Mercur mill, consist of a series of parallel plates 4 inches apart. Each plate is 20 feet long and 4 feet high, and is simply a light frame-work with canvas on both sides. A suction pipe passes through the top, at the center, down to within one-half inch of the bottom, while two blowing pipes also enter at the top, each one half way between the center and the ends and extend barely through the top. Eighteen of these parallel plates are firmly attached to channel irons crossing their tops, thus forming one basket of 2,880 square feet. We have thus in one machine a total filtering surface of 2,880 square feet. On top of these plates, and connected to their suction pipes by a 3-inch cross header-pipe, rests a large vacuum pump of the Dean pattern. The whole basket hangs by eight wire cables from an electric crane, which raises and lowers the basket and carries it from one compartment of the tank to the other. The tank has three compartments, containing slimes, weak cyanide solution and wash water. Just beyond the wash water compartment is the discharge point, simply an open space, under which the tailings cars stand to receive their load. In operation the filter-basket is lowered in the slimes compartment and the vacuum pump is started. The slimes are agitated to prevent settling. After the slimes have proceeded for from one to two hours, varying with the character of the slimes and the thickness of emulsion, there is a coating of slimes on all parts of the filtering surface of from three-quarters to one inch in thickness, representing from nine to twelve tons of slimes, dry weight. The motor on the crane is then started, and the basket, with its load, is lifted out of the slimes compartment and then moved along its track until over the weak cyanide compartment and the basket is lowered. Twenty minutes in this tank and ten minutes in the wash water tank is sufficient for a complete displacement of the valuable solutions. During all this time the pump is in operation and the vacuum produced prevents the cakes from dropping off during the transferring. Having arrived at the discharge point, the vacuum pump is stopped and a blast of air turned into a pipe connecting with the blowing pipe of each plate. The air passes through the cloth, from within the plates, dislodges the slimes cake and they drop at once into the cars below. The advantages of this system are a saving in labor, a saving of the values and a saving in the cost of installation. The success of this process will undoubtedly put the Consolidated Mercur more to the front and a large increase in production may be looked for in 1904.

The Homestake Tunnel in process of construction at Stockton, is one of the largest and most important engineering undertakings in Utah. The objects of its construction include the extraction of ore from the mine of that name and other properties, the draining of the entire camp, the use of the water for concentration and also for irrigating a vast area in this country. The length of this tunnel is 2,800 feet, the diameter of the tunnel is 10 feet, and the half of this being already done. The inner dimensions of the tunnel in the clear are 4 feet at the top and 6 feet at the bottom, with a vertical measurement of 6 feet 8 inches. Among the properties to be benefitted besides the Homestake, are the Cyclone, Black Diamond, Galena King and others.

The statistical tables of the Utah production that appear in connection with this review for the year 1903, showing the quantity and value of the production of the precious metals in the state, their origin by classes and counties, together with the final disposition of the ores and bullion for treatment and sale, have been assembled from confidential returns furnished by the producers and also from the reports furnished by the different United States mints and assay offices and from the various smelting and refining companies who handled the product.

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PRODUCTION OF GOLD AND SILVER IN UTAH DURING THE CALENDAR YEAR 1903.

Counties—	1902.	1903.	Increase or Decrease.
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Impossible to classify.....	1,000,000	1,268,093	268,093
Total.....	1,338,000	2,521,556	1,183,556

ORIGIN BY PERCENTAGES OF THE PRODUCTION OF GOLD AND SILVER IN UTAH DURING THE CALENDAR YEAR 1903.

Counties—	1902.	1903.	Increase or Decrease.
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Summary By Counties.

Counties—	1902.	1903.	Increase or Decrease.
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Impossible to classify.....	1,000,000	1,268,093	268,093
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Disposition of the Gold and Silver of Utah Production During the Calendar Year 1903.

Counties—	1902.	1903.	Increase or Decrease.
Beaver.....	1,338,000	2,521,556	1,183,556
Box Elder.....	1,000,000	1,268,093	